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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------------|------------------|
| 10/705,405 | 11/10/2003 | William M. Hiatt | 2269-5558B US (99-0253.01) | 4408 |
| 24247 | 7590 | 09/27/2006 | EXAMINER | |
| TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110 | | | HECKERT, JASON MARK | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1746 | |

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/705,405 | Applicant(s) HIATT ET AL. | |
| | Examiner Jason Heckert | Art Unit 1746 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>3/7/2005, 12/3/04</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. In claim 45 and 46, the phrase "high pressure" contains relative and vague terminology. In general, nozzles discharge a fluid at a pressure higher than atmospheric.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 – 8, 11-16, 35-40, 43-44, 49-51, 54, 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Sumnitsch. Sumnitsch discloses a substrate processing apparatus consisting of a fabrication or etching site with a material removal component (Fig. 3). The material removal component comprises a support 1 located within the fabrication site that can be raised or lowered. Said support is capable of rotating to facilitate the removal of waste from the surface of the substrate. Sumnitsch clearly shows in Figure 3 that the apparatus is designed so that receptacles 25, 26, and 27 by means of orifices 28, 29, and 30 capture the waste so that it does not fall back into the fabrication site. Said receptacles are in communication with reservoirs 46 and 47 via conduits 39-41 whereby waste material and cleaning or etching agents are

Art Unit: 1746

returned to said reservoirs. Madsen discloses that pumps can be included to facilitate the movement of fluids (col. 5 lines 36-37).

5. Sumnitsch also teaches that cleaning agents and rinsing water can be applied to the surface of a substrate via joint aperture 42. As stated previously, Sumnitsch discloses multiple receptacles stacked on top of one another. The fabrication site and support are showed as being enclosed in tank 20 in Figure 3, and the applicator 42 is external to the tank. This tank serves as a protective cover in between the support and unconsolidated material. The receptacles are located on the periphery of the substrate support, and the material removal components, such as the conduits and reservoirs, are located outside of the tank.

6. As stated previously, the support element 1 is capable of rotating both during and after application of a cleaning agent. This rotation constitutes agitation. The different receptacles 25-27 that surround the periphery are in line with different cleaning zones, wherein when the support is in line with a receptacle, aperture 42 applies a certain agent from reservoirs 46, 46, or water line 43. Said aperture can be adjusted to obtain the desired distance from the support structure (col. 5 line 15-16).

7. In regards to claims 49-54, 57 the device disclosed by Sumnitsch, as stated previously, is capable of discharging a material to the surface of a substrate, removing the excess waste, and returning it to a reservoir. This is structurally equivalent to the device of claim 49. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44

USPQ2d 1429. 1431-32 (Fed. Cir. 1997). As stated previously, Sumnitsch discloses conduit lines for transporting the material to the reservoirs as well as the possible inclusion of pumps to facilitate fluid transfer.

8. Claim 1, 16-36, 40, 45-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Madsen. Madsen discloses a fabrication and cleaning chamber 12 and a material removal component downstream of the fabrication chamber contain a plurality of material removal heads 14 that are oriented toward the surface of the substrates processed. Madsen further discloses that some of the heads 14 are capable of sucking the material to be removed. Such suction, by definition, implies the use of a negative pressure source suitable for the removal of a substantial amount of waste. A material reclamation system comprised of tub 15, pump 16, and water tank 17 is in communication with the heads 14 (col. 2 line 58-60). The material is then returned from the heads to the water tank by means of the pump via the tub. This tub serves the same function as a reservoir, and connectively these structures provide the function of a conduit. Madsen discloses that the removed material can pass through a filter (col. 3 line 19), which separates the waste material from the originally supplied material.

9. As state previously, Madsen discloses a plurality of material removal heads 14. Some of these heads discharge a sharp jet of pressurized air (col. 2 line 43) and are referred to as air-knives (col. 2 line 41). These heads are used to remove waste from the surface of the substrates processed. Said heads have positioning elements so that they may be located at a suitable level (col 2. line 37-38). In addition to a head-

Art Unit: 1746

adjusting element, Madsen also teaches a conveyor 11 for transporting the substrate from the fabrication and cleaning chamber to the material reclamation chamber.

10. In the cleaning chamber 12, a wash element 13 is included to apply a cleaning agent to the surface of the substrate for the removal of unconsolidated material. As stated previously, a water tank holds the wash water, which is the primary cleaning agent.

11. In regards to claim 40, 45-47 the chamber 12 comprises a cleaning zone, the tank 17 is a source for a cleaning agent, and wash element 13 contains nozzles for application of material located above the substrate. Furthermore, there is a plurality of said nozzles, and they emit a fluid that is, by nature, under pressure.

12. Claim 1, 40-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Taniyama. Taniyama discloses a fabrication site with a cleaning component. The cleaning component includes a process unit 7a for cleaning, agent supplies 62, 64, 66, 68, and a nozzle 43 for application of cleaning agents. The nozzle is attached to a nozzle assembly 31, which is part of process fluid supply mechanism 30. The nozzle assembly is moved about a vertical shaft 50 by means of a drive mechanism 51. This allows the nozzle to move, and the drive mechanism controls the movement. Also included are flow rate control valves (col.8 line 3) to manipulate the flow of the agents thereby controlling operation of the applicator. Taniyama discloses that the nozzle can also be in a fixed location (col. 9 line 54)

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 9 – 10, 52-53, 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sumnitsch in view of Madsen. As stated in paragraphs 4 and 7 above, Sumnitsch discloses all of the aspects of claim 1 through claim 8 and claim 49. However, he does not disclose the inclusion of a filter. Madsen, as stated in paragraph 8 above, does disclose the use of a filter in a substrate treating apparatus to separate the waste fluid into waste and a recyclable fluid. Furthermore, filters are commonly used throughout to perform material separation. It would have been obvious to one skilled in the art to modify Sumnitsch and include a filter to separate the waste fluid into its constituents.

15. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Madsen. Madsen discloses the limitations of claims 40, as presented above. He does not distinctly state that the cleaning zone is laterally adjacent to the fabrication site. However, he does state that conveyor 11 receives substrates that have been fabricated and are ready to be treated or cleaned (col 2 lines 9-19). Furthermore, Madsen's device depicts two laterally adjacent cleaning zones, one for application of material, and one for the removal of said material. It would have been obvious to one skilled in the

Art Unit: 1746

art, to utilize the device disclosed by Madsen adjacent to the fabrication site with conveyor 11 connecting the two, as he implies.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Heckert whose telephone number is (571) 272-2702. The examiner can normally be reached on Mon. to Friday, 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMH

A handwritten signature in black ink, appearing to read 'Michael Barr', with a long horizontal flourish extending to the right.

**MICHAEL BARR
SUPERVISORY PATENT EXAMINER**